

Date: Sat, 16 Apr 94 04:29:46 PDT  
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>  
Errors-To: Info-Hams-Errors@UCSD.Edu  
Reply-To: Info-Hams@UCSD.Edu  
Precedence: Bulk  
Subject: Info-Hams Digest V94 #423  
To: Info-Hams

Info-Hams Digest                      Sat, 16 Apr 94                      Volume 94 : Issue 423

Today's Topics:

        6m Equipment?  
        FM Broadcast as a freq. ref.  
        HostMaster Mac  
        How long to pref. calls?  
        HTX-202 audio problem

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>  
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: 15 Apr 94 21:56:06 GMT  
From: ihnp4.ucsd.edu!swrinde!sgiblab!barrnet.net!informix.com!informix.com!  
informix.com!randall@network.ucsd.edu  
Subject: 6m Equipment?  
To: info-hams@ucsd.edu

                    THE SIX METER AMATEUR RADIO BAND  
                    FREQUENTLY ASKED QUESTIONS  
(Designed to help encourage hams to use and enjoy this band!)

WHAT IS THE SIX-METER BAND? The 6 meter band is a portion of the RF spectrum around 50 MHz allocated to amateur radio. The band is on the dividing line where propagation resembles VHF bands like 2 meters and HF bands like 10 meters. The band is fun and fascinating because just about all types of propagation pop up on 6m at one time or another. The band is an acquired taste: a few hams work the band regularly, but most hams never work it at all because activity on it

is usually much less than on other bands. Once you acquire the taste, you tend to be hooked for life. The band has become more popular in recent years with the help of the availability of better rigs. There two types of 6m operators: the ones who use FM or packet for local work, and ones who work DX with SSB or CW. (Some like me even do both!) Most of the activity on the band is SSB.

WHAT ARE THE FREQUENCIES? In most of the world, the band runs from 50 to 54 MHz. A detailed list of the allocations in each country is outside the scope of this article. Check the licensing authorities for your particular country, especially if you live outside the Americas or Africa. In Europe, the post WW II allocations plan assigned the 50 MHz region to television. Recently, most European countries have moved their TV to much higher frequencies. As a result, almost all European countries now permit some sort of 6m operation. While the band starts at 51 or 52 MHz in the ANZAC countries such as New Zealand, they permit operation down to 50 MHz outside TV broadcasting hours.

WAS 6M ONCE TV CHANNEL ONE? No. Televisions in the U.S. start at channel 2. TV Channel 1 in the U.S. was allocated 44 to 50 MHz, with 6m occupying the same spot as it does today. By 1948, the FCC re-allocated channel 1 to various two-way services due to interference from police radios, propagation interference, and other problems. The ARRL attempted unsuccessfully back then to get the FCC to re-allocate channel 2 since 6m interferes with it.

IS FM USED ON 6M? Yes, but not that often in most areas. Most 6m enthusiasts use only SSB and sometimes CW. The main FM simplex frequency is 52.525 MHz. Your local range is better on 6m with the same power and a similar antenna. If 2m is too crowded in your area, the FM portion of 6m may be just the solution you need.

IS AM USED ON 6M? Yes, but very rarely in most areas. It seems to be popular in Japan. 50.400 or 50.600 are the AM calling frequencies.

ARE REPEATERS USED? There are a few 6m repeaters listed in the ARRL Repeater Directory, but some of them are not operational. This will depend on your area. The offset in the U.S. is usually one MHz. (e.g. 53.330 out, 52.330 in)

HOW DO I KNOW IF THERE IS AN OPENING? Of course, the best way is to check for an opening is to listen to 6m, especially for the beacons that are listed in the ARRL Repeater Directory. Monitor 50.110 and 50.125 for SSB openings. You can also monitor 28.885 MHz, the "10 Meter VHF Liaison Frequency", where hams report VHF openings and schedule contacts. You'll hear some of those "pros" you see in QST

like W5UN on that frequency. Openings are RARE, except around the summer solstice in June. Patience is a virtue for the 6m operator.

WHAT ARE THE MOST POPULAR FREQUENCIES? The band plan is controversial. Popular frequencies tend to vary from area to area. Per the FCC, 50.0 to 50.1 is reserved for CW work in the U.S. 50.100 is the most popular SSB DX frequency. 50.100 to 50.124 should be used only for DX. Some hams tend to discourage (or flame) U.S. domestic stations from calling CQ in this "DX window". 50.125 is the U.S. domestic calling frequency, and your most likely frequency to hear activity. Most domestic SSB is found between 50.125 and 50.200, but it takes a good Es opening to push stations above 50.150. Only during hot F2 openings do you find SSB above 50.200.

DO I NEED A BEAM ANTENNA? If you want to work DX, yes. You can have fun with a vertical during openings, (I do with an Icom 726 in my car) but the serious stations use beams. Everyone is horizontally polarized, but cross-polarization doesn't matter for Es, F2, or Aurora. A few stations use 3-element beams, but a 4 or 5 element beam is so small that a LOT of people use them. Quite a few people have Cushcraft 6-element "Boomers". There are a few other big beams, and the lunatic fringe stacks them. For example, K6QXY has a stack of 4 six-meter beams, each with a 50ft (15m) boom. The higher the tower the better. I live in subdivision where no outdoor antennas are allowed, so I use a 2-element beam in the attic, and it works OK. I also use a vertical for local FM work. RG8 or RG213 is plenty good enough cable for most people. Antenna-mounted preamps are never needed.

IS 6M NOISY? External noise is fairly high at 50 MHz. It overrides the front-end noise figure on about all the rigs on the market today unless you have a LOT of cable loss or a VERY quiet location.

IS THERE PACKET WORK ON 6M? It depends on the area. Local packet work can be found in the higher frequency portions of the band. There has been very little DX packet work.

CAN I RUN RADIO-CONTROLLED EQUIPMENT USING 6M? This is legal in the U.S. for licensed hams. Check the ARRL Repeater Directory for suggested frequencies.

WHAT ARE "GRID SQUARES"? On VHF and up bands, the world has been divided in 1-degree latitude x 2-degree longitude "squares" which start at the south pole and date line and "read right up". SSB stations will always identify their grid square along with their call sign, e.g. "KK6MY DM87". Each square is also divided into sub-squares. European stations like the subsquares; most US stations don't even know their own. In any case, the "squares" and

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CAN I USE A TRANSVERTER WITH AN HF RIG TO GET ON 6M? Yes, but you will either spend a lot of time tinkering with a soldering iron, or you will spend a lot of money on the high-end transverters from SSB Electronics. An SSB Electronics 6m transverter fully equipped will run you \$800, but may outperform most of the VHF all-mode rigs. (or so SSB Electronics claims) Some hams build transverters, but you need a good level of electronics expertise.

I LISTEN TO 6M OCCASIONALLY, BUT I NEVER HEAR ANYONE. Openings on 6m are rare when compared to the HF bands. Sporadic E (Es) is the backbone of 6m DX. (more information on Es is below) For hams in far northern latitudes (say 50 degrees and above), aurora openings are common in early evenings around the Equinoxes. F2 propagation allows world-wide communication around peak sunspot years.

HOW OFTEN ARE THERE F2 OPENINGS? F2 propagation, the kind that we know and love on 20 meters, occurs rarely on 6m. Only at the peak times of the sunspot cycle, a few years out of each eleven, does the band open up for F2. When it does happen, the band becomes a frenzy of activity, and behaves similar to 10 meters. In the last cycle, there were many openings in 1989 through 1991, but that cycle had an unusually long period of peak activity. Openings occur most often in Autumn during the daytime. A few stations have worked 100 or more countries, but they have been patiently working the fleeting openings for many years. The March, 1993 QST magazine has an excellent article on 6m propagation that shows a correlation between solar flux and openings.

HOW IS TROPO PROPAGATION ON 6M? The ordinary ground-wave tropo range on six isn't quite as great as on two. There are a number of reasons. Since there are so many other propagation modes on six, people don't try so hard on tropo. Antenna gain often is higher on two. Noise is lower on two. At least in the summer, stations like W3BWU (Pittsburgh), W3IDZ (northern NJ) are easily worked from Maryland with the beam pointing at them, and can be heard at almost any pointing. They are in the 150-W class.

HOW IS METEOR PROPAGATION? Any area workable by meteors can be worked more easily by Es or aurora. Even though meteor bursts are much stronger and longer on six than on two, little use has been made of them. There has been a VERY little meteor-burst packet work on six. W3OTC had the first such contact (with W0RPK). W3XO worked him a few years later.

WHAT ABOUT IONOSCATTER? Some people think it's really meteors, but every weekend morning there are a number of nearly- kilowatt stations working each other on SSB at distances of about 600 - 1000 miles by ionospheric scatter. Sigs are weak, and it takes good beams, height, and power, but it is very reliable. See the old NBS papers by Bailey, Bateman and Kirby, et al. Bateman and Kirby were/are hams. Ross Bateman recently died. Dick Kirby continues as head of ITU in Geneva.

HOW IS AURORA? It is much easier than on two. SSB is usually intelligible. Point north about dusk, most commonly in March and October/November. Lots of people in the far northern latitudes work this mode when it happens.

WHAT ABOUT SPORADIC E (Es)? Es is the most common propagation mode on 6m. The term "sporadic" is accurate: stations can pop in and then fade quickly. I would monitor 50.125 and 28.885 MHz to check for Es. Es has little or nothing to do with the sunspot cycle; it is much more a function of the time of year. Es is most common in June, but can appear from May to August, and around Christmas, here in northern latitudes. In addition to the common single-hop range of 500 - 1500 miles, there are quite a few double- and-more hop contacts on 6m. Now that a number of Europeans are on six, we find that they can be worked from the US east coast each summer. Likewise the Caribbean stations work all over the US. The US west coast can work Hawaii, Alaska, and Mexico. You will also hear some hams on June DXPedition trips to Mexico and the Caribbean; they are easy to work in the late afternoon or early evening, even with 10W and a vertical. The VHF contest in the middle of June is also a good time to work Es.

WHAT ABOUT TRANSEQUATORIAL PROPAGATION? - The southern US gets a number of openings to South America by some kind of ionospherically-ducted propagation. The stations are generally about equidistant either side of the magnetic equator. Given exceptional luck, an Es opening linked into this mode can make it available to more northern stations. This mode has bad flutter fading and a touch of the auroral spectrum spreading. This mode also works sometimes on two meters if you use CW and really good gear. It has been worked on 432 MHz.

ANY MOONBOUNCE (EME)? - There have been a few EME contacts on six, but the required antenna size and high background noise makes it out of the reach of most people.

WHAT ABOUT TVI PROBLEMS? There is no doubt about it, six has TVI troubles. You don't find a lot of people on 6m in channel 2 areas unless cable is widely subscribed-to. VCRs are very prone to 6m pickup. Cordless phones, baby monitors, and kiddie walkie-talkies operate on 49 MHz. Most consumer electronic equipment has poor RFI shielding. The common connecting or power cable is a quarter-wave antenna for six. The TV owners have their revenge since the 13th harmonic of the color subcarrier, or something, of TV sets and TV games puts out a birdy at 50.113 MHz to bother the 6m operators in return. There is also quite a bit of trouble from noisy power distribution lines if they aren't buried (usually bad insulators or poor guy bonding). Some interference to telephones and VCRs can be remedied with snap-on ferrites from Radio Shack on the cords on the device.

HOW DO I GET STARTED? You of course will need a rig and an antenna. If you have a budget of about \$1000, a newer, digital 100W rig like the Icom 575H is your best bet. Its receiver is excellent. You can get one new, or look for used ones at hamfests, or obtain one through packet or Usenet. Good 6m rigs hold their resale value well. There are many 10W rigs out there; although you will have fun working the good Es openings, this is not enough power for the serious operator. The lowest priced rigs will be old drift tube radios like the Swans and Heathkits; be prepared to get frustrated with the drift. Amplifiers and beam antennas are readily available.

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Randall Rhea                                Informix Software, Inc.
Project Manager, MIS Sales/Marketing Systems  randall@informix.com
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Date: Fri, 15 Apr 1994 21:10:07 GMT  
From: ihnp4.ucsd.edu!galaxy.ucr.edu!library.ucla.edu!news.ucdavis.edu!csus.edu!  
netcom.com!wa2ise@network.ucsd.edu  
Subject: FM Broadcast as a freq. ref.  
To: info-hams@ucsd.edu

In article <268@ravel.okay.com> duncan@ravel.okay.com (Jim Duncan) writes:  
>In article <Co7rLo.5o8@cbnewsm.cb.att.com> hellman@cbnewsm.cb.att.com  
(eric.s.hellman) writes:

>>Recently Gary (I hope my memory is correct) commented that fm stations  
>>may be assigned frequencies as much as 10 KHz away from the standard.  
>  
>Your memory is correct, but the statement isn't. The 10 kHz offset is  
>used when necessary by co-channel television stations to greatly reduce  
>the effect of visual interference.

Besides, the capture effect of FM recievers takes care of the issue  
of co-channel interference, unless it gets above what, around 2 or  
3 dB.

Can someone explain the reason that this capture effect haoppens in  
FM radio reception? Some basic theory with easy math would be  
good.

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Date: 16 Apr 94 05:35:34 GMT  
From: dog.ee.lbl.gov!agate!news.ucdavis.edu!csus.edu!netcom.com!  
slay@ucbvax.berkeley.edu  
Subject: HostMaster Mac  
To: info-hams@ucsd.edu

Steven L Goldstein (slg@rfc.COMm.harris.COM) wrote:  
: Does anybody have experience w/ Kantronics' Hostmaster for Macintosh? I'm  
: leaning toward the purchase of a KamPlus, and am wondering if I should  
: get Hostmaster or some other third-party multimode controller software.  
: I've also heard that you must use Hostmaster software in order to utilize  
: the KamPlus' ability to simultaneously operate HF and VHF. Is this true?  
: 73 de KB2PWM

I tried using several different terminal emulation programs with my KAM,  
but in order to use the "simultaneous" capability, you need to have some  
software that utilizes the KAM's "host mode". HostMaster for Mac does.  
In the DOS world, there are the HostMaster+ (for DOS) and I think KA-GOLD  
and maybe others that will work. I do not know about other s/w for the  
Mac that will do it. I use HM for MAC and am completely satisfied with it.

I have used the Hostmaster for Macintosh since it first came out and

with the latest version - I understand it even supports G-TOR. The KAM and KAM+ are the "only way to go" if you want to monitor DX PacketCluster on VHF and still be able to work any of the digital modes (incl. CW) on HF. HostMaster for Macintosh was written by Kevin Krueger - N0IOS. I believe you can order it from either KANTRONICS or directly from Kevin - but I would suggest you ask him directly.

Kevin also puts out a wonderful contest logging software program called MARATHON which I do know is available directly from him. Here's his address:

Kevin Krueger - N0IOS  
1780 Ruth Street  
Saint Paul, MN 55109 USA

I am obviously an enthusiastic supporter of Kevin's efforts - especially since he is one of the few guys around who is writing good software for use by us Hams with Macs. I also had the pleasure of meeting him once during a trip he made to California - like most hams - he's "good people" too!

73 from a very biased user  
de Sandy WA6BXH/7J1ABV  
slay@netcom.com

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Date: Fri, 15 Apr 1994 21:27:06 GMT  
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!cs.utexas.edu!news.unt.edu!  
news.oc.com!csci-wiermac.etsu.edu!user@network.ucsd.edu  
Subject: How long to pref. calls?  
To: info-hams@ucsd.edu

Does anyone have an estimate as to how long it might be before the preferred callsign docket might be adopted and go into force (incidentally, I MUCH prefer "preferred" rather than "vanity" as far as the name is concerned).

The reason I'm interested is that I might consider trying to move up from my current class in order to get an application in an earlier group, but it's gonna take some work since my last upgrade was in the Dallas FCC office in 1970!

(Eh? What's that you say sonny - no tubes anymore? :-)

73 de WB5KXH



===== insert usual disclaimers here =====

Bob Wier, East Texas State U., Commerce, Texas  
keeper of the Adobe Photoshop, MC68HC11, ICOM mailing lists  
wier@merlin.etsu.edu (watch for address change)

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Date: 16 Apr 94 05:15:37 GMT  
From: dog.ee.lbl.gov!agate!news.ucdavis.edu!csus.edu!netcom.com!  
n1list@ucbvax.berkeley.edu  
Subject: HTX-202 audio problem  
To: info-hams@ucsd.edu

In article <whfHMu\_00jW=ETyLQ6@andrew.cmu.edu> Rick Gilmore <rg36+@andrew.cmu.edu>  
writes:

-I picked up a Realistic HTX-202 2m HT over the weekend (my first rig),  
-but have been getting comments that my audio is weak.

A friend just got one with the same problem (in MA). The deviations was set  
way too low. The audio deviation pot is RV1, just to the right of the VCO  
shield. Remove 5 screws from the back and four from the battery slide. Remove  
the battery slide locking tab and battery release. Open the radio, being  
careful not to damage the flex connecting the two case halves. Looking at the  
component side of the half not attached to the front, find a large metal box  
near the bottom. RV1 is the upper of two adjustable components just to the  
right of it. Adjust it counter-clockwise to increase the deviation.

/mike

PS, there are no out-of-band rx or tx mods for this radio...

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\\| Michael L. Ardai N1IST Teradyne ATB, Boston MA

-\*- -----

/|\\ ardai@maven.dnet.teradyne.com n1list@netcom.com

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Date: 15 Apr 94 22:06:11 GMT  
From: ihnp4.ucsd.edu!swrinde!sgiblab!barrnet.net!informix.com!informix.com!  
informix.com!randall@network.ucsd.edu  
To: info-hams@ucsd.edu

References <060494b2206@bobsbox.rent.com>,  
<1994Apr8.152302.11864@ke4zv.atl.ga.us>, <phb.766157411@melpar>x  
Subject : Re: 6 meters

## THE SIX METER AMATEUR RADIO BAND FREQUENTLY ASKED QUESTIONS

(Designed to help encourage hams to use and enjoy this band!)

WHAT IS THE SIX-METER BAND? The 6 meter band is a portion of the RF spectrum around 50 MHz allocated to amateur radio. The band is on the dividing line where propagation resembles VHF bands like 2 meters and HF bands like 10 meters. The band is fun and fascinating because just about all types of propagation pop up on 6m at one time or another. The band is an acquired taste: a few hams work the band regularly, but most hams never work it at all because activity on it is usually much less than on other bands. Once you acquire the taste, you tend to be hooked for life. The band has become more popular in recent years with the help of the availability of better rigs. There two types of 6m operators: the ones who use FM or packet for local work, and ones who work DX with SSB or CW. (Some like me even do both!) Most of the activity on the band is SSB.

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HOW OFTEN ARE THERE F2 OPENINGS? F2 propagation, the kind that we know and love on 20 meters, occurs rarely on 6m. Only at the peak times of the sunspot cycle, a few years out of each eleven, does the band open up for F2. When it does happen, the band becomes a frenzy of activity, and behaves similar to 10 meters. In the last cycle, there were many openings in 1989 through 1991, but that cycle had an unusually long period of peak activity. Openings occur most often in Autumn during the daytime. A few stations have worked 100 or more countries, but they have been patiently working the fleeting openings for many years. The March, 1993 QST magazine has an excellent article on 6m propagation that shows a correlation between solar flux and openings.

HOW IS TROPO PROPAGATION ON 6M? The ordinary ground-wave tropo range on six isn't quite as great as on two. There are a number of reasons. Since there are so many other propagation modes on six, people don't try so hard on tropo. Antenna gain often is higher on two. Noise is lower on two. At least in the summer, stations like W3BWU (Pittsburgh), W3IDZ (northern NJ) are easily worked from Maryland with the beam pointing at them, and can be heard at almost any pointing. They are in the 150-W class.

HOW IS METEOR PROPAGATION? Any area workable by meteors can be worked more easily by Es or aurora. Even though meteor bursts are much stronger and longer on six than on two, little use has been made of them. There has been a VERY little meteor-burst packet work on six. W3OTC had the first such contact (with W0RPK). W3XO worked him a few years later.

WHAT ABOUT IONOSCATTER? Some people think it's really meteors, but every weekend morning there are a number of nearly- kilowatt stations working each other on SSB at distances of about 600 - 1000 miles by ionospheric scatter. Sigs are weak, and it takes good beams, height, and power, but it is very reliable. See the old NBS papers by Bailey, Bateman and Kirby, et al. Bateman and Kirby were/are hams. Ross Bateman recently died. Dick Kirby continues as head of ITU in Geneva.

HOW IS AURORA? It is much easier than on two. SSB is usually intelligible. Point north about dusk, most commonly in March and October/November. Lots of people in the far northern latitudes work this mode when it happens.

WHAT ABOUT SPORADIC E (Es)? Es is the most common propagation mode on 6m. The term "sporadic" is accurate: stations can pop in and then fade quickly. I would monitor 50.125 and 28.885 MHz to check for Es. Es has little or nothing to do with the sunspot cycle; it is much more a function of the time of year. Es is most common in

June, but can appear from May to August, and around Christmas, here in northern latitudes. In addition to the common single-hop range of 500 - 1500 miles, there are quite a few double- and-more hop contacts on 6m. Now that a number of Europeans are on six, we find that they can be worked from the US east coast each summer. Likewise the Caribbean stations work all over the US. The US west coast can work Hawaii, Alaska, and Mexico. You will also hear some hams on June DXpedition trips to Mexico and the Caribbean; they are easy to work in the late afternoon or early evening, even with 10W and a vertical. The VHF contest in the middle of June is also a good time to work Es.

WHAT ABOUT TRANSEQUATORIAL PROPAGATION? - The southern US gets a number of openings to South America by some kind of ionospherically-ducted propagation. The stations are generally about equidistant either side of the magnetic equator. Given exceptional luck, an Es opening linked into this mode can make it available to more northern stations. This mode has bad flutter fading and a touch of the auroral spectrum spreading. This mode also works sometimes on two meters if you use CW and really good gear. It has been worked on 432 MHz.

ANY MOONBOUNCE (EME)? - There have been a few EME contacts on six, but the required antenna size and high background noise makes it out of the reach of most people.

WHAT ABOUT TVI PROBLEMS? There is no doubt about it, six has TVI troubles. You don't find a lot of people on 6m in channel 2 areas unless cable is widely subscribed-to. VCRs are very prone to 6m pickup. Cordless phones, baby monitors, and kiddie walkie-talkies operate on 49 MHz. Most consumer electronic equipment has poor RFI shielding. The common connecting or power cable is a quarter-wave antenna for six. The TV owners have their revenge since the 13th harmonic of the color subcarrier, or something, of TV sets and TV games puts out a birdy at 50.113 MHz to bother the 6m operators in return. There is also quite a bit of trouble from noisy power distribution lines if they aren't buried (usually bad insulators or poor guy bonding). Some interference to telephones and VCRs can be remedied with snap-on ferrites from Radio Shack on the cords on the device.

HOW DO I GET STARTED? You of course will need a rig and an antenna. If you have a budget of about \$1000, a newer, digital 100W rig like the Icom 575H is your best bet. Its receiver is excellent. You can get one new, or look for used ones at hamfests, or obtain one through packet or Usenet. Good 6m rigs hold their resale value well. There are many 10W rigs out there; although you will have fun working the good Es openings, this is not enough power

for the serious operator. The lowest priced rigs will be old drifty tube radios like the Swans and Heathkits; be prepared to get frustrated with the drift. Amplifiers and beam antennas are readily available.

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